

**REMARKS**

This Amendment is organized under appropriate subheadings for the convenience of the Examiner.

**Amendment to Specification**

The specification has been amended to conform the title to the pending claimed subject matter and to clarify the government support for the application. No new matter has been added. Entry is requested.

**Amendments to Claims 28, 56, 132, 134-136 and 148 and New Claims 158-166**

Claims 28, 56, 132, 134-136 and 148 have been amended and new Claims 158-166 have been added. Claim 148 was amended to correct a typographical error in the identification of the claim from which it depends. Support for amendments to the claims and new Claims 158-166 can be found in the application as originally filed. For example, page 11, line 27 through page 12, line 3; page 13, lines 15-18; page 16, lines 1-3; page 17, lines 16-23; the Sequence Listing of the application provides the sequences; and SEQ ID NOs. for the sequences depicted in Figures 2C, 6A, 14A and 19 and SEQ ID NO: 38, thereby providing support for amendments to independent Claims 1 and 56. SEQ ID NO: 38 is identical to the amino acid sequence depicted on page 42, lines 25-26, which, due to a typographical error, was identified as SEQ ID NO: 27. The amino acid sequence of SEQ ID NO: 27 is depicted on page 41, line 11. The substitute Sequence Listing filed on October 30, 2002 properly identified the amino acid sequence depicted on page 42, lines 25-26 as SEQ ID NO: 38 and amended the specification accordingly to correct the typographical error.

New Claims 158-166 depend, directly or indirectly, from amended independent Claims 28 and 56, and specify that the Sir2 protein is a Sir2 $\alpha$  protein (Claim 149) and particular amino acid sequences of Sir2 $\alpha$  and fragments of Sir2 (Claims 150-157), which includes fragments in a Markush group of amended independent Claims 28 and 56. Support for new Claims 158-166 can be found in the Sequence Listing and on page 43, lines 22-25 of the specification. Entry of the amendment to the claims and new Claims 158-166 is respectfully requested.

**Amendment to Abstract**

The abstract has been amended to conform to the pending claimed subject matter. No new matter has been added. Entry is requested.

**Rejection of Claims 28-31, 56, 60-62, 64, 131-136 and 139-148 Under 35 U.S.C. § 112,****Second Paragraph**

Claims 28-31, 56, 60-62, 64, 131-136 and 139-148 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention. The Examiner stated that use of reference to Figures in Claim 28 is not within an “exceptional circumstance” and that the term “includes” in Claims 132 and 134-136 makes it impossible to determine the metes and bounds of the claimed invention.

Applicants have amended Claims 28, 132 and 134-136. Therefore, Claims 28-31, 56, 60-62, 64, 131-136 and 139-148, as amended, and new Claims 158-166, which depend, directly or indirectly from amended, independent Claims 28 and 56, meet the requirements of 35 U.S.C. § 112, second paragraph.

In addition, the Examiner stated that Claim 28 and Claims 29-31, 131, 132, 135, 136, 139 and 141-144, which depend, directly or indirectly, from Claim 28, are incomplete because the essential step of measuring NAD-dependent deacetylation activity of the Sir2 protein has been omitted.

The step of measuring NAD-dependent deacetylation activity of the Sir2 protein is a step in the method of independent Claim 28 (see lines 2 and 3 of independent Claim 28). Claims 29-31, 131, 132, 135, 136, 139 and 141-144 depend, directly or indirectly, from Claim 28, and, thus, include the step of measuring NAD-dependent deacetylation activity of the Sir2 protein and meet the requirements of 35 U.S.C. § 112, second paragraph.

**Advisory Action**

In the Advisory Action, mailed from the USPTO on September 29, 2011, the Examiner did not enter amendments to the claims as filed in the Amendment After Final, filed electronically on September 20, 2011.

In the Advisory Action, the Examiner stated that because the arguments in the Amendment After Final “are predicated on an amendment not of record” “they are deemed non-persuasive.” Amendments to the claims in the Amendment After Final were in response to rejections made by the Examiner in the Office Action made Final, which would make the amendment “not of record.” Applicants specifically responded to 35 U.S.C. § 112, second paragraph rejections raised by the Examiner in the Office Action made Final. For example, Claims 28 and 56 were amended to add SEQ ID NOs. in place of reference to figures and Claims 132, 135 and 136 were amended to replace “include” with “comprise.” Applicants respectfully request the Examiner enter the amendments to the claims in this Reply, which Applicants believe are responsive to rejections made by the Examiner under 35 U.S.C. § 112, second paragraph, in the Office Action made Final.

**Supplemental Information Disclosure Statement**

A Supplemental Information Disclosure Statement (SIDS) is being filed concurrently herewith. Entry of the SIDS is respectfully requested.

**SUMMARY AND CONCLUSION**

Applicants' claimed invention, as amended, meets the requirements of 35 U.S.C. § 112, second paragraph. In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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